

What is claimed is:

1. An alkaline storage battery comprising nickel cathodes and an alkaline electrolytic solution, wherein at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound is introduced into the nickel cathodes comprising a cathode active material composed mainly of nickel hydroxide, which surface has a coating layer of a cobalt compound, and the alkaline electrolytic solution contains lithium hydroxide, a lithium hydroxide content being not less than 0.6 mol / L and not more than 1.6 mol / L.

2. An alkaline storage battery according to claim 1, wherein the cobalt compound is a cobalt compound containing alkaline cations.

3. An alkaline storage battery according to claim 1, wherein the amount of at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound to be added is not less than 0.2% by mass and not more than 1.0% by mass in relation to the mass of the cathode active material composed mainly of nickel hydroxide, having the coating layer of the cobalt compound.

4. An alkaline storage battery according to claim 1, wherein the alkaline electrolytic solution contains sodium hydroxide.

5. An alkaline storage battery incorporating an electrode group comprising nickel cathodes and anodes, disposed in such a way as to oppose each other with a separator interposed therebetween, wherein the nickel cathodes each include a cathode active material composed mainly of nickel hydroxide, having a coating layer of a cobalt compound, and to which at least one species of a compound selected from the group consisting of a niobium compound, titanium compound, tungsten compound and molybdenum compound is added while the amount of at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound for each of the nickel cathodes disposed in inner parts of the electrode group is greater than that for each of the nickel cathodes disposed on the outer sides of the electrode group.

6. An alkaline storage battery according to claim 5, wherein at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound is introduced into

each of the nickel cathodes such that the amount of at least one species of a compound for each of the nickel cathodes increases in sequence from the outer portion of the electrode group toward the inner portion thereof.

7. An alkaline storage battery according to claim 5, wherein the cobalt compound coating the nickel hydroxide is a cobalt compound containing alkaline cations.

8. An alkaline storage battery according to claim 5, wherein the amount of at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound, to be added to each of the nickel cathodes disposed in the inner parts of the electrode group, is not less than 0.2% by mass and not more than 1.0% by mass in relation to the mass of the cathode active material composed mainly of the nickel hydroxide, having a layer of coating of cobalt compound.

9. An alkaline storage battery incorporating an electrode group comprising nickel cathodes and anodes, disposed in such a way as to oppose each other with a separator interposed therebetween, and an alkaline electrolytic solution, wherein the nickel cathodes each include cathode active material composed mainly of nickel hydroxide, having a layer of coating

of cobalt compound, and to which at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound is added while the amount of at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound to be added to each of the nickel cathodes disposed in the inner portions of the electrode group is greater than that for each of the nickel cathodes disposed on the outer portions of the electrode group, and the alkaline electrolytic solution contains lithium hydroxide of not less than 0.6 mol / L and not more than 1.6 mol / L.

10. An alkaline storage battery according to claim 9, wherein at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound is introduced into each of the nickel cathodes such that the amount of at least one species of a compound for each of the nickel cathodes increases in sequence from the outer portions of the electrode group toward the inner portions thereof.

11. An alkaline storage battery according to claim 9, wherein the cobalt compound coating the nickel hydroxide is a

cobalt compound containing alkaline cations.

12. An alkaline storage battery according to claims 9 or 10, wherein the amount of at least one species of a compound selected from the group consisting of niobium compound, titanium compound, tungsten compound and molybdenum compound, to be added to each of the nickel cathodes disposed in inner parts of the electrode group, is not less than 0.2% by mass and not more than 1.0% by mass in relation to the mass of the cathode active material composed mainly of the nickel hydroxide, having a layer of coating of cobalt compound.

13. An alkaline storage battery according to claim 9, wherein the alkaline electrolytic solution contains sodium hydroxide.